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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/592,920	09/15/2006	Yoshito Iwasawa	450100-05495	8508

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EXAMINER	
SCHWARTZ, JORDAN MARC	

ART UNIT	PAPER NUMBER
2873	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/592,920	IWASAWA, YOSHITO	
	Examiner	Art Unit	
	Jordan M. Schwartz	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 1 and 3 are objected to for the following reason. Since the intended meaning could be determined from what is set forth in the specification and figures a 112 rejection has not been made but instead this lack of clarity issue is being raised in the following objection.

With respect to claims 1 and 3, the claimed "when the negative subgroup is caused to undergo a lens barrel sinking operation" is objected to because the claimed zoom lens within a lens barrel and the claimed negative lens subgroup sinking operation lack an antecedent basis. Specifically, if the zoom lens within a lens barrel and the negative lens subgroup being able to undergo a lens barrel sinking operation are intended as limitations (as is herein assumed) then that needs to be claimed with greater clarity and particularity. Specifically, as a suggestion, in claim 1, line 11 it is suggested that applicant claim "wherein the zoom lens is located within a lens barrel and said negative lens subgroup can undergo a lens barrel sinking operation and wherein, when the negative lens subgroup undergoes said lens barrel sinking operation..." with similar changes to claim 3 to provide the required antecedent basis and clarity.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

> invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mihara patent number 7,436,599 (Mihara'599) in view of Nishioka patent number 7,301,710.

Mihara'599 discloses the limitations therein including the following: a zoom lens (column 1, lines 10-15, Figures 5 and 17); composed of a plurality of groups adapted to change spacings to thereby perform magnification changing (Figure 5, example 5); comprising a first group including a reflection member to bend or fold the optical axis (Figure 5, example 5, "G1" and Fig 17, the reflection mirror and "LG"); a negative subgroup at an object side relative to the reflection member (Figure 5, example 5, the negative lens on the object side of the reflection member and Fig 17, the negative lens disclosed); the first group fixed during magnification changing (Figure 5, example 5, column 2, lines 43-67); a second group movable during magnification changing at an image side of the first group and having negative power (Figure 5, example 5, column 2, lines 43-67, lens group "G4" as negative and moving during zooming); a light quantity adjusting member (Figure 5, example 5, the aperture stop); the zoom lens within a lens barrel (Figure 33, "113", column 35, line 43); the negative subgroup undergoing a sinking operation into a zoom lens system body (column 9, lines 1-14 and Figure 17, the negative lens disclosed being sunk into the space provided by the pivoting mirror); the reflection member being withdrawn by being rotated with a fulcrum (fig 17, column 29, lines 29-37); and the negative subgroup of the first group is accommodated into the space thus vacated by the withdrawn reflection member (column 9, lines 1-14, column

29, lines 29-36, figure 17 with negative lens element of "LG" moved into the space vacated by the mirror). Mihara'599 further discloses the zoom lens system within an image pick-up device to convert the image into an electronic signal (column 1, lines 10-14, column 11, line 55 to column 12, line 6); and the satisfaction of the mathematical condition of claims 2 and 4 (example 5 with fa/fw = 2.44). Mihara discloses as is set forth above but discloses the fulcrum rotated at one end side (fig 17) and therefore does not disclose the claimed "being rotated with a fulcrum which is not limited to one end side" i.e. being rotated at a location other than at the end of the mirror. However, applicant only briefly mentions this in the specification (page 10, lines 9-13) and does not disclose any criticality or purpose of this feature, this feature apparently does not solve any related problem and therefore it appears to be an obvious matter of design choice. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the mirror of Mihara as being rotated with a fulcrum which is not limited to one end side, i.e. being pivoted at a location other than at the end of the mirror since lacking criticality or purpose or without solving any related problem, such a feature is apparently an obvious matter of design choice.

Mihara'599 discloses as is set forth above but discloses the light quantity adjustment member i.e. the stop movable and not fixed during magnification. Nishioka teaches that in a zoom optical system comprising a most object side lens group having a reflection member to bend the optical path and further comprising a stop located on the image side of the first lens group (abstract, figures 1 and 11) that the stop can either be movable or can be fixed for the purpose of providing a zoom lens system having a

limited fluctuation of the height of rays with zooming and to provide a system of simpler construction (figures 1 and 11, column 49, lines 1-6). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the zoom lens system of Mihara'599 as having a stop fixed on the optical axis since Nishioka teaches that in a zoom optical system comprising a most object side lens group having a reflection member to bend the optical path and further comprising a stop located on the image side of the first lens group, that the stop can fixed on the optical axis for the purpose of providing a zoom lens system having a limited fluctuation of the height of rays with zooming and to provide a system of simpler construction.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagimori et al patent number 6,754,446 in view of Mihara patent number 7,436,599 (Mihara'599).

Hagimori discloses the limitations therein including the following: a zoom lens (abstract); composed of a plurality of groups adapted to change spacings to thereby perform magnification changing (abstract, figure 3, example 3, column 5, line 49 to column 6, line 4); comprising a first group including a reflection member to bend or fold the optical axis (Figure 3, example 3, abstract, column 8, lines 37-49, "Gr1"); a negative subgroup at an object side relative to the reflection member (Figure 3, example 3, the negative lens on the object side of the reflection member); the first group fixed during magnification changing (Figure 3, example 3, column 5, line 49 to column 6, line 4); a second group movable during magnification changing at an image side of the first group and having negative power (Figure 3, example 3, column 5, line 49 to column 6, line 4);

a light quantity adjusting member fixed during magnification changing (Figure 3, example 3, the aperture stop, column 5, line 49 to column 6, line 4); the zoom lens within a lens barrel (column 10, lines 56-62); the lens barrel undergoing a sinking operation into a zoom lens system body (column 8, line 10); the zoom lens system within an image pick-up device to convert the image into an electronic signal (column 1, lines 10-21); and the satisfaction of the mathematical condition of claims 2 and 4 (example 3 with fa/fw = 3.0).

Hagimori discloses as is set forth above including disclosing the zoom lens system comprising a mirror in the first lens group with an object side negative lens sub-component (figure 3, example 3, column 8, lines 37-49) and that the zoom lens system can be within a lens barrel that undergoes a sinking operation into the lens barrel (column 8, lines 10-30) but does not specifically disclose the negative subgroup undergoing a sinking operation with the reflective member being rotated by a fulcrum. Mihara'599 teaches that in a zoom lens system comprising a mirror in the first lens group with an object side negative lens sub-component and the zoom lens system within a lens barrel (figures 5, 17 and 33, column 1, lines 10-15, column 9, lines 1-14, column 35, line 43), that the negative subgroup can undergoing a sinking operation with the reflective member being rotated by a fulcrum and the negative subgroup occupying the vacated space for the purpose of providing a system that provides a greater thickness reduction (column 9, lines 1-14, column 29, lines 29-36, figure 17). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the zoom lens system of Hagimori having the negative

subgroup undergoing a sinking operation with the reflection member being rotated by a fulcrum since Mihara'599 teaches that in a zoom lens system comprising a mirror in the first lens group with an object side negative lens sub-component and the zoom lens system within a lens barrel, that the negative subgroup can undergoing a sinking operation with the reflective member being rotated by a fulcrum and the negative subgroup occupying the vacated space for the purpose of providing a system that provides a greater thickness reduction. Additionally, Mihara teaches as is set forth above but teaches the fulcrum rotated at one end side (fig 17) and therefore does not teach the claimed "being rotated with a fulcrum which is not limited to one end side" i.e. being rotated at a location other than at the end of the mirror. However, applicant only briefly mentions this in the specification (page 10, lines 9-13) and does not disclose any criticality or purpose of this feature, this feature apparently does not solve any related problem and therefore it appears to be an obvious matter of design choice. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the mirror of Hagimori as modified by Mihara as being rotated with a fulcrum which is not limited to one end side, i.e. being pivoted at a location other than at the end of the mirror since lacking criticality or purpose or without solving any related problem, such a feature is apparently an obvious matter of design choice.

Response to Arguments

Applicant's arguments filed October 1, 2009 have been fully considered but they are not persuasive. Specifically, applicant argues that the references do not disclose the claimed sinking operation with the claimed reflection member being rotated with a

fulcrum which is not limited to one end side. However, as stated in the rejections above, the references disclose and teach the sinking operation in combination with the reflection mirror being rotated with a fulcrum. The claimed "which is not limited to one side" is only briefly mentioned in the specification without setting forth any criticality or purpose and without indicating any problem that is being solved by such a feature and therefore this feature, as stated in the rejections above, appears to be an obvious matter of design choice.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan M. Schwartz whose telephone number is 571-272-2337. The examiner can normally be reached on Monday to Friday from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jordan M. Schwartz
Primary Examiner
Art Unit 2873
November 21, 2009

/Jordan M. Schwartz/
Primary Examiner, Art Unit 2873